

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

2520 Venture Oaks Way, Suite 350

Sacramento, CA 95833

(916) 274-5721

FAX (916) 274-5743

Website address www.dir.ca.gov/oshsb**OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD****BOARD STAFF'S REVIEW OF
PETITION FILE NO. 534**

Petitioner:
Alimak Hek, Inc.

Submitted by: George Hauptman

Title: Senior Engineer-Standards

Date: August 26, 2013

INTRODUCTION

On May 13, 2013 the Occupational Safety and Health Standards Board (Board) received a petition dated May 10, 2013 from Mr. Joel A. Goldman, Clark Trevithick Law Corporation, representing Alimak Hek, Inc. (Petitioner). The Petitioner proposes amendments to Title 8, Construction Safety Orders (CSO) Sections 1604.1(c)(1), 1604.20, and 1604.27. The petition is related to safety concerns regarding the recertification and/or servicing and maintenance of sealed safety brakes and speed governors used on rack and pinion¹ driven Construction Personnel Hoists (CPH).

Labor Code Section 142.2 permits interested persons to propose new or revised regulations concerning occupational safety and health and requires the Board to consider such proposals and to render its decision no later than six months following their receipt. In accordance with Board policy, the purpose of this evaluation is to provide the Board with relevant information upon which to base a reasonable decision.

REASON FOR THE PETITION

The Petitioner states that in 2011 it began meeting with the Division of Occupational Safety and Health (Division) regarding safety concerns associated with the recertification of sealed safety brakes on Alimak rack and pinion driven CPHs (construction elevators) by third parties in a manner contrary to the manufacturer's published recommendations. Sealed safety brakes on the subject elevators include a speed controlling monitoring and detection device referred to as a "speed governor" that triggers the CPH safety brakes when an elevator overspeed situation is detected. The speed governor and safety brake devices subject to the petition request are designed as a sealed unit and are referred to in this evaluation as the "sealed safety brake."

The Petitioner is concerned that other companies that refurbish and/or replace parts from Alimak sealed safety brake systems do not meet Alimak specifications and safety standards for safe operation of the brakes. In one case, the Petitioner examined a safety brake refurbished/recertified by another company. The Petitioner found by its factory testing, inspection and evaluation that none of the internal replacement parts which are always or routinely replaced at the Alimak factory had been replaced. The Petitioner concluded that the safety brake failed their established manufacturer's standards.

The CSO, Article 14 "Construction Hoists" provides the Title 8 requirements for CPHs. Section 1604.1(c)(1) states the following:

"(c) Engineering Supervision.

(1) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field."

¹ Rack and Pinion Machine. A machine in which the motion of a car is obtained by a power-driven rotating pinion mounted on the car and traveling on a stationary rack mounted on the supporting mast or tower.

The Petitioner states that the purpose and intent of Section 1604.1(c)(1) is to require compliance with the manufacturer's recommendations and to provide a means for continued operation of equipment where the manufacturer is no longer operating in California and the manufacturer's specifications or recommendations are not available in the market place. It is Alimak's specification, with respect to its sealed safety brakes, that they should be returned to the factory for inspection and replacement of parts.

The Petitioner has proposed amendments for Section 1604.1(c)(1) to clarify that the employer must comply with the manufacturer's specifications and limitations (continued use and/or part replacement) unless the manufacturer is no longer in business. In such cases, the evaluation regarding the condition and limitation of equipment would be based on the determination of a professional engineer licensed in California and competent with regard to the equipment (e.g. design, operation, and inspection of CPHs).

The Petitioner also recommends a new subsection (i) be added to Section 1604.20 in order to require replacement of speed governors by manufacturer specified dates if the governor cannot be internally inspected through an inspection plate.

The Petitioner noted that the consensus standard, ASME A17.1-2004 "Safety Code for Elevators and Escalators," addresses replacement of components and calibration of sealed safety brakes. This standard addresses elevators, hoisting and lifting mechanisms that in general are associated with permanent installations. CPHs are not covered by ASME A17.1-2004. Nonetheless, with respect to the maintenance of permanently installed passenger rack and pinion elevators, ASME A17.1-2004, Section 8.6.6.1 in part states:

"...Where car and/or counterweight safeties are sealed to prevent field adjustment and examination, they shall be returned to the manufacturer for replacement of components and calibration at the interval recommended by the manufacturer. A data plate shall be installed to show the date that the next maintenance /calibration is due."

The Petitioner states that its sealed safety brake for permanent passenger elevators addressed in ASME A17.1-2004, Section 8.6.6.1 is the identical part used in Alimak brand construction elevators. The Petitioner concludes that the same level of safety with respect to Alimak safety brakes should be afforded to persons using Alimak construction elevators. Therefore, the Petitioner has recommended that language similar to ASME A17.1-2004, Section 8.6.6.1 be added to the CSO in Section 1604.27 "Maintenance" proposed as a new subsection (c).

NATIONAL CONSENSUS STANDARDS

The ANSI/ASSE A10.4-2007 standard for "Personnel Hoists and Employee Elevators on Construction and Demolition Sites" with respect to replacement parts states the following in Section 27.3:

“27.3 Replacements. Where a listed/certified device or component is replaced, it shall be subject to the applicable engineering or type test as specified in the requirements of CAN/CSA B44.1 ANSI/ASME A17.5. The device or replacement component shall be labeled by the certifying organization. For a replacement device or component to be used it must be included in the original manufacturer’s directions or specifications listed as an acceptable replacement part or equivalent.”

The above provision is not incorporated by reference in the CSO, Article 14 “Construction Hoists.” Board staff notes that the quoted ASME provision does not address situations where the manufacturer’s directions or specifications are not available as provided for in the CSO Section 1604.1(c)(1).

FEDERAL OSHA STANDARDS

Federal OSHA construction standards in 29 CFR 1926.552 address the requirements for material hoists, personnel hoists and elevators. Section 1926.552(a)(1) states the following.

1926.552(a)
General requirements.

1926.552(a)(1)
The employer shall comply with the manufacturer’s specifications and limitations applicable to the operation of all hoists and elevators. Where manufacturer’s specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.

The federal provision is similar to existing CSO Section 1604.1(c)(1) and does not clarify or define what is meant or intended by the phrase “where the manufacturer’s specifications are not available.”

STAFF EVALUATION

According to stakeholders², including the Petitioner, Alimak Hek, Inc. manufactures and provides the majority share of CPH elevators used in California. There are several other manufacturers of CPH elevators used in California such as, but not limited to, USA Hoist, Geda USA Elevator and Material Lift Company, LLC, and Avro Hoist Company. Alimak’s recommendations for maintenance and servicing of CPHs include that sealed safety brakes be returned to the manufacturer for replacement of the unit or replacement of parts and components.

However, there are CPH manufacturers that not only service and/or replace their own sealed safety brakes but they also remanufacture other manufacturer’s sealed safety brakes (including Alimak models) by testing, inspection, replacing parts and components, or providing new sealed safety

² For the purposes of this evaluation “stakeholders” may include, but are not limited to, the Petitioner, other CPH manufacturers, Division representatives, elevator companies that specialize in the servicing and maintenance of CPHs and companies that own, rent and use CPH equipment.

brake devices/units. Factors such as the car size, travel speed of the elevator, rated capacity, type and frequency of use are some of the factors considered by engineering and technical staff in the process of remanufacturing sealed safety brakes units.

Stakeholders contacted confirm that the specific parts and components for automatic replacement when remanufacturing/refurbishing brakes, and parts subject to inspection for wear or damage and their limitations for continued service, are the propriety information of the manufacturer and are not published. Therefore, the Petitioner indicated that only the manufacturer of the sealed safety brake can properly inspect, service or remanufacture these parts with the assurance of continued safe operation of safety brake systems for CPHs.

The Petitioner also recommends language for Section 1604.20 "Governors" that would provide a new subsection (i). This subsection would require speed governors that cannot be internally inspected through an inspection plate (cover or service opening)³ to be replaced by the owner in accordance with the instructions and specific date on the manufacturer's data plate. The speed governor and safety brake devices subject to the petition request are designed as a sealed unit. Since the Petitioner's specifications are to return these sealed parts to the manufacturer when service is due, this addition would have a similar effect to that of the Petitioner's other recommended amendments to Sections 1604.1(c)(1) and 1604.27, new subsection (c). Those recommendations being that sealed safety brakes/governors must be returned to the manufacturer for inspection and replacement of parts at intervals specified by the manufacturer.

There are opinions within the Division's Elevator Unit that the manufacturer should be the only entity permitted to service or remanufacture sealed safety brakes for CPHs. This rationale is based upon the concept that the manufacturer has the experience and knowledge to determine which parts and components should be automatically replaced when service is due and which should be subject to the determinations of qualified and experienced persons (e.g. professional licensed engineers) familiar with the design and operation of CPHs.

Several companies that own, rent, sell, inspect, service and maintain rack and pinion driven CPHs in California indicate that to mandate that servicing and/or remanufacturing of safety brakes be done only by the original manufacturer is costly, onerous and unnecessary. Engineering opinions from these companies and/or their representatives assert that the sealed safety brakes can be remanufactured/refurbished for safe operation by third party suppliers and that third parties have provided such services for a number of years, going back to at least the mid-1990's and earlier.

Discussions with stakeholders did not identify any record of specific accidents in California associated with the malfunction or failure of sealed safety brakes, whether they are serviced and remanufactured by the manufacturer or by third party suppliers. However, as indicated earlier, the Petitioner's technical staff has thoroughly examined a third party remanufactured/refurbished safety brake, and the Petitioner asserts that the examined safety brake was substandard and did not meet the Petitioner's criteria for the safe servicing and/or remanufacturing of sealed safety brakes.

³ Parenthetical added by staff for clarification.

Notwithstanding the above, third party companies that inspect, service and remanufacture/refurbish safety brakes and the companies that own CPHs and buy and use such parts assert that, based on their experience, there is no valid reason to prohibit the market availability of these replacement safety brake systems. Elevator companies that remanufacture CPH safeties assert that sound engineering practices, including inspection and appropriate testing and evaluation of parts and components, are used in the process of remanufacturing/refurbishing sealed safety brake systems.

Board staff as well as some stakeholders find that the regulatory requirements of CSO Section 1604.1(c)(1) may need clarification. For instance, the phrase, "Where the manufacturer's specifications are not available..." lacks clarity as to what is meant by "not available." Does it mean that the manufacturer is out of business or not operating in California or that the specifications are not available or published by the CPH manufacturer? Furthermore, there are differing opinions from engineering and technical specialists in the CPH industry and other stakeholders as to the merits and/or necessity of amendments based upon this Petition request that would be appropriately discussed by an advisory committee.

RECOMMENDATIONS

For the reasons stated above, Board staff is of the opinion that an advisory committee of stakeholders should be convened by the Board staff to consider the Petitioner's request and assist in determining if amendments are necessary for consideration by the Board. The Petitioner and or its representatives should be invited to participate in the advisory committee.